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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/817,187      | 04/02/2004  | Scott Collins        | 089498-0477         | 2157             |

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| EXAMINER |
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TESKIN, FRED M

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| ART UNIT | PAPER NUMBER |
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1713

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                                |  |
|------------------------------|-------------------------------|--------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/817,187 | Applicant(s)<br>COLLINS ET AL. |  |
|                              | Examiner<br>Fred M. Teskin    | Art Unit<br>1713               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-98 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13, 21-26, 33-50 and 63-98 is/are allowed.
- 6) ☒ Claim(s) 14-20, 27-32 and 51-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>080904</u> . | 6) <input type="checkbox"/> Other: ____.  |

Claims 1-98 are currently pending and under examination herein.

The disclosure is objected to because of the following informalities: the chemical structures depicted at page 5, lines 20-25; page 8, lines 25-30; page 16 (structure 6) and page 19 (structure 11) appear technically inaccurate due to omission of a third double bond in the six-membered ring with "BAr<sup>F</sup><sub>2</sub>" substituent, leaving two ring carbons in trivalent form.

Appropriate correction of the specification is required.

The drawings are objected to because the structural formulae shown in Figures 4 and 9 appear technically incorrect for the same reasons as detailed in the objection to the disclosure, *supra*. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or

"New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claims 27-32 and 51-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 51 and 57 (and claims dependent thereon) are incomplete, hence indefinite, due to lack of definition for the variable "R" of the depicted structures. Resort to the specification does not aid in ascertaining the scope of "R", since the most relevant portions of the disclosure (e.g., pages 8, 18, 19 and Figs. 8, 9) fail to assign a definition to this variable.

Claims 27 and 57 are indefinite due to the depicted structures being technically incorrect for the same reasons as detailed in the objection to the disclosure, *supra*.

Claims 14-18 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 12-16 of copending Application No. 10/817,465. This

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is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

No substantive difference is discernible between the two sets of claims. Indeed, claims 14-18 and copending claims 12-16 are all drawn to the same method wherein an identically defined composition is used as a coinitiator "in an organic phase or neat monomer reaction phase" (*Cf.*, claim 14 and copending claim 12, lines 1-4 of each and the corresponding structures and definitions of Y, R, R' and R".)

Claims 14-18 of this application conflict with claims 12-16 of Application No. 10/817,465. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 14 and 16-20 are rejected under 35 U.S.C. 102(a) as being anticipated by Lewis et al (*J. Am. Chem. Soc.* 2003, 125, 14686-14687).

The Lewis et al article describes the cationic polymerization of isobutene (IB) using a diborane which corresponds to the chemical structure of claim 12 when Y is boron, each R is perfluorophenyl and R' is 1,2-perfluorophenylene (see p. 14686, first paragraph and p. 14686, Table 1). According to the discussion of Table 1 on page 14867 (see especially the second full paragraph of left-hand column), the reaction was conducted in hexane and with protic initiation of IB polymerization due to the presence of low levels of water. Hexane clearly qualifies as an "organic phase" within claims 14, 19 and 20 (the latter claim not precluding the alternative use of an organic reaction phase).

As such, Lewis et al is seen to fully disclose the applicants' method for cationically polymerizing olefin monomer as set out in claims 14 and 16-20.

In making the above rejection, it has been determined that claims 14 and 16-20 are not entitled to benefit under Section 119(e) of the earlier filing date of either provisional application no. 60/463,601 or 60/518,236, since neither application provides descriptive support for the entire subject matter of these claims. In particular, the provisional applications are nowhere found to describe the claimed method using any aluminum species of the recited composition and therefore would not reasonably convey to one skilled in the relevant art that the inventors, at the time those applications were filed, had possession of the claimed invention. As a result, the Lewis et al article

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qualifies as prior art under Section 102(a) since it was published prior to the filing date of the present application and is "by another" relative to the instant inventorship.

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Fritz et al is pertinent to boron compounds having a chemical structure within claim 1 (note column 3, lines 50+). A method for *cationically* polymerizing olefin monomer is not, however, taught nor fairly suggested.

Shaffer is pertinent to the use of methylboron compound as a component of a living carbocationic catalyst composition.

Williams et al is pertinent to the conversion of  $[(C_6F_5)_3Hg]_3$  to 1,2- $(BBr_2)C_6F_5$  (note equation 2).


Claims 1-13, 21-26, 33-50 and 63-98 are allowable on the present record.

Any inquiry concerning this communication should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**FRED TESKIN**  
**PRIMARY EXAMINER**  
1713

FMTeskin/02-22-06